

REMARKS

Claims 1-33 are pending in this application. By this Amendment, claims 1, 12 and 23 are amended. No new matter is added.

Applicant acknowledges the withdrawal of the previous §101 rejection.

The Office Action rejects claims 1-33 under 35 U.S.C. §103(a) over U.S. Patent No. 5,835,098 to Baldwin in view of U.S. Patent No. 6,599,194 B1 to Smith et al. (Smith). This rejection is respectfully traversed.

Claim 1 recites, *inter alia*, means which transforms a depth value of each pixel of an original image into a second depth value formed of lower bits I to J which are positioned lower than the most significant bit of the depth value. Claim 1 is revised for clarity to recite that the bits I to J are an intermediate set of bits below the uppermost bit and above the lowermost bit. Independent claims 12 and 23 recite similar features. These features are supported, for example, by Applicant's Fig. 14 and pages 37-38.

The Office Action alleges that Baldwin teaches this feature. Baldwin teaches at col. 25, lines 30-34 that the depth field holds the depth (Z) value associated with a pixel and can be 16, 24 or 32 bits wide. Col. 24, lines 63-67 of Baldwin teaches that the depth field in the local buffer is converted into the internal format if it is less than the internal width, i.e., the unused bits are the most significant bits and they are set to 0.

That is, Baldwin merely truncates the uppermost bits to fit and retains all lowermost bits. For example, if converting from 24 bit to 16 bit, all of bits b0 to b15 would be retained. However, as is clear from Applicant's claims 1, 12, and 23, only intermediate bits I to J are chosen and used. As is clear from Applicant's Fig. 14 and associated disclosure, a depth value using bits I to J is transformed so that the remaining bits are intermediate bits (such as bits b19 to b12). This is taught in Applicant's pages 36-38 (particularly the bottom of page

37) to be beneficial, for example, in improving image quality by accurately controlling the degree of focusing for objects located near the focus of a virtual camera.

Baldwin does not specifically teach or suggest transforming the depth value of each pixel of an original image into a second depth value formed from lower bits I to J which are positioned lower than the most significant bit of the depth value and above a lowermost bit as recited in claims 1, 12 and 23. Smith fails to overcome the deficiencies of Baldwin with respect to independent claims 1, 12, and 23. Accordingly, these claims and claims dependent therefrom distinguish over Baldwin and Smith.

Independent claim 7 is directed to a game system that generates an electronic image to provide a more realistic view on a display screen by a specific series of transformations using index numbers and lookup tables based on specific bits of image information arranged in a specific organization. Independent claims 18 and 29 are similar. In particular, claim 7 recites, *inter alia*,

- means which sets bits M to N as an index number is a first lookup table to transform the image into a third image information
- means which sets bits K to L as an index number in a second lookup table to transform the image into fourth image information
- and means which determines second image information formed of the bits I to J in the image based on the third and fourth image information, where (where $K \geq I \geq L > M \geq J \geq N$).

This is supported and illustrated, for example, in Applicant's Figs. 17 and 21, which show transformation of a Z-value from a 24-bit value into a Z2 value using LUT tables for the purpose of selecting an alpha value that improves image quality, such as by improving focusing/defocusing based on depth relative to the point of view. As set forth in Applicant's

specification, bits M to N correspond to bits 15 to 8, bits K to L correspond to bits 23 to 16, and bits I to J correspond to bits 19-12.

Thus, as is clear from the recited relationships, bit I is within the range of K to L, and bit J is within the range of M to N. Moreover, it is clear from these cited relationships that bit set "I to J" is overlapping and includes a bit from each of bit sets "M to N" and "K to L" while bit sets "M to N" and "K to L" are non-overlapping because $L > M$.

In making the rejection of independent claims 7, 18, and 29, the Office Action alleges that "alpha blending is a well-known and common implementation in the MMX instruction set...using several buffers, commonly known as lookup buffers, that contain the information of the two images" to blend the images together (paragraph 10 of Office Action). The Office Action then alleges the creation of various non-specific buffers.

This merely distills the detailed inventive features into the general subject matter of "alpha blending." However, distilling of an invention down to the "gist" of an invention disregards the requirement of analyzing the subject matter "as a whole." *W.L. Gore & Assoc., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 330 (Fed. Cir. 1983, *cert. denied*, 469 U.S. 851 (1984)). Moreover, to establish a *prima facie* case of obviousness, all of the claim limitations must be taught or suggested by the prior art (*In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974)) and must be given patentable weight. *Ex parte Grasselli*, 231 USPQ 393 (Bd. App. 1983) *aff'd mem.* 738 F.2d 453 (Fed. Cir. 1984). Because the Patent Office has not met its burden in establishing the presence of all claim features, a *prima facie* case of obviousness has not been met.

Applicant previously argued that the specific relationship among the various bits is not taught in Baldwin. In response, the latest Office Action again merely refers (in paragraph 18 of the Office Action) to Baldwin col. 29, line 5 to col. 31, line 5 and adds "the examiner points to the relational phrases 'greater than' (>) as themselves pointing out what the

relationship between the bits are." This latter statement fails to clarify the Examiner's position as it relates only to the relationship being claimed, not to Baldwin teaching a specific relationship among bits used for the various LUT transformations. In particular, there is no teaching of the specific relationship where bit sets "M to N" and "K to L" are non-overlapping and bit set "I to J" is overlapping to include one bit from each set. Because no such relationships are taught by Baldwin and the specific problems overcome by Applicant are not even appreciated, one of ordinary skill in the art would not have been led to "pick and choose" the specific bit sets recited absent impermissible hindsight. Smith fails to overcome deficiencies of Baldwin.

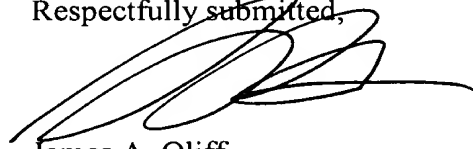
Accordingly, independent claims 7, 18 and 29 and claims dependent therefrom distinguish over Baldwin and Smith.

Withdrawal of the rejection is respectfully requested.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-33 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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